

Amendments to the Claims:

1. (Previously Presented) An isolated nucleic acid molecule selected from the group consisting of:

- a) a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1;
- b) a nucleic acid molecule comprising a nucleotide sequence having at least 90% sequence identity to the nucleotide sequence of SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having pesticidal activity;
- c) a nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2; and,
- d) a nucleic acid molecule comprising a nucleotide sequence encoding a polypeptide having at least 90% amino acid sequence identity to the amino acid sequence of SEQ ID NO:2, wherein said polypeptide has pesticidal activity.

2. (Previously Presented) The isolated nucleic acid molecule of claim 1, wherein said nucleotide sequence is a synthetic sequence that has been designed for expression in a plant.

3. (Previously Presented) The nucleic acid molecule of claim 2, wherein said synthetic sequence has an increased GC content relative to the GC content of SEQ ID NO:1.

4. (Original) A vector comprising the nucleic acid molecule of claim

5. (Original) The vector of claim 4, further comprising a nucleic acid molecule encoding a heterologous polypeptide.

6. (Original) A host cell that contains the vector of claim 4.

7. (Original) The host cell of claim 6 that is a bacterial host cell.

8. (Original) The host cell of claim 6 that is a plant cell.
9. (Original) A transgenic plant comprising the host cell of claim 8.
10. (Original) The transgenic plant of claim 9, wherein said plant is selected from the group consisting of maize, sorghum, wheat, sunflower, tomato, crucifers, peppers, potato, cotton, rice, soybean, sugarbeet, sugarcane, tobacco, barley, and oilseed rape.
11. (Previously Presented) A transgenic seed comprising the nucleic acid molecule of claim 1.
- 12-18. (Canceled)
19. (Previously Presented) A method for producing a polypeptide with pesticidal activity, the method comprising culturing the host cell of claim 6 under conditions in which the nucleic acid molecule encoding the polypeptide is expressed.
- 20-21. (Canceled)
22. (Previously Presented) A plant having stably incorporated into its genome a DNA construct comprising a nucleotide sequence that encodes a protein having pesticidal activity, wherein said nucleotide sequence is selected from the group consisting of:
- a) the nucleotide sequence of SEQ ID NO:1;
 - b) a nucleotide sequence having at least 90% sequence identity to the nucleotide sequence of SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having pesticidal activity;
 - c) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:2; and,

d) a nucleotide sequence encoding a polypeptide having at least 90% amino acid sequence identity to the amino acid sequence of SEQ ID NO:2, wherein said polypeptide has pesticidal activity;
wherein said nucleotide sequence is operably linked to a promoter that drives expression of a coding sequence in a plant cell.

23. (Previously Presented) A plant cell having stably incorporated into its genome a DNA construct comprising a nucleotide sequence that encodes a protein having pesticidal activity, wherein said nucleotide sequence is selected from the group consisting of:

a) the nucleotide sequence of SEQ ID NO:1;
b) a nucleotide sequence having at least 90% sequence identity to the nucleotide sequence of SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having pesticidal activity;

c) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:2; and,

d) a nucleotide sequence encoding a polypeptide having at least 90% amino acid sequence identity to the amino acid sequence of SEQ ID NO:2, wherein said polypeptide has pesticidal activity;
wherein said nucleotide sequence is operably linked to a promoter that drives expression of a coding sequence in a plant cell.

24. (Previously Presented) The nucleic acid molecule of claim 1, wherein said nucleic acid molecule is selected from the group consisting of:

a) a nucleic acid molecule comprising a nucleotide sequence having at least 95% sequence identity to the nucleotide sequence of SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having pesticidal activity; and,

b) a nucleic acid molecule comprising a nucleotide sequence encoding a polypeptide having at least 95% amino acid sequence identity to the amino acid sequence of SEQ ID NO:2, wherein said polypeptide has pesticidal activity.

25. (Previously Presented) The plant of claim 22, wherein said nucleotide sequence is selected from the group consisting of:

a) a nucleotide sequence having at least 95% sequence identity to the nucleotide sequence of SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having pesticidal activity; and,

b) a nucleotide sequence encoding a polypeptide having at least 95% amino acid sequence identity to the amino acid sequence of SEQ ID NO:2, wherein said polypeptide has pesticidal activity.

26. (Previously Presented) The plant cell of claim 23, wherein said nucleotide sequence is selected from the group consisting of:

a) a nucleotide sequence having at least 95% sequence identity to the nucleotide sequence of SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having pesticidal activity; and,

b) a nucleotide sequence encoding a polypeptide having at least 95% amino acid sequence identity to the amino acid sequence of SEQ ID NO:2, wherein said polypeptide has pesticidal activity.

27. (New) The nucleic acid molecule of claim 1, wherein said pesticidal activity is lepidopteran or lygus activity.

28. (New) The plant of claim 22, wherein said pesticidal activity is lepidopteran or lygus activity.

29. (New) The plant cell of claim 23, wherein said pesticidal activity is lepidopteran or lygus activity.